

NEWS OF THE SCIENCES

New Methods of Manufacturing Ozone.

FORESTS AND RAINFALL

Railway Ties Being Made of Shoe Leather.

The expensive methods of manufacturing ozone have restricted its use for hygienic and industrial purposes, but a new process said to have been found by the English engineer Elworthy is so much simpler than those heretofore and permits of so much larger production that it fulfills expectations. It may result in new possibilities for public hygiene as well as for many industries. By the process ozone is produced in an apparatus into which atmospheric air is forced by means of an air pump.

An electric alternating current of 120 volts in three amperes, changed through a transformer to 110 volts is then introduced. Through electric discharge in the apparatus ozone is engendered. The air introduced into the apparatus is forced through an ingenious system of pipes and escapes, highly ozonized, with great velocity, through a pipe which conducts it ad libitum to the places and objects intended to be treated with ozone. A Stuttgart, Germany, firm has for some time past made interesting experiments with these apparatus, which are still continued. It has been proven so far that a much larger quantity of ozone is obtained than by previous methods. The apparatus works very quietly and without any interruption. It is evident that such an increase of production means a cheapening of the price of ozone and, therefore, a more extended use. The apparatus takes up but little room and can be used wherever the alternating electric current of sufficient power is available, either through a small motor or from larger electric establishments. Ozone, on account of its oxidizing power, is well adapted for supplying oxygen to closed rooms, such as theaters, hospitals, manufacturing shops, etc., for purifying drinking water, for the purification of sewage, bleaching of leather, treating oils, etc.

The 6,000 miles of Trans-Siberian railway cost \$48,544,035, or \$81.00 per mile, for sixty-pound rail, single track. The Ministry of Ways and Means of Siberian Railroad. Communication has found it necessary to enlarge the rolling stock of the fourth-class service to 7,000 cars, to be used for transportation of laborers, emigrants and recruits.

The latest form of railroad ties is made of leather. The scrap leather from shoe shops is taken into a disintegrator, ground very fine, subjected to a re-rolling process and moulded. The moulding machine can be so regulated that ties hard enough to take a spike or tie through which a spike cannot be driven can be produced. The three great essentials in a cross-tie are apparently found in this leather sleeper, for it is guaranteed to hold a spike, the spike will not splinter in it and it will not rot. It might also be added that in the case of elevated roads it may serve to deaden the noise of passing trains. Sample ties, which have already been down twenty-eight months, fail to show the least wear.

The influence of forests upon climate was the subject of discussion at the annual meeting of the German Meteorological Society at Berlin the other day. The conclusions reached assigned much less influence to the forests than has been hitherto assumed. Professor Schubert of Göttingen gave a summary of the results of his four years' observations at Prussian forestry stations throughout the extended wooded region of the northwestern part of Brandenburg. The observations were taken daily at numerous points within the forests, in clearings and other points. The result was that from the minimum variations of temperature and humidity in the forests and at more remote points it was concluded that the forests had no appreciable influence upon the rainfall and general climate.

It was pointed out in the debate following that the observations in the extended swampy regions of Russia gave similar results. Diagrams and tables illustrating the above experiments will be sent to the St. Louis exposition.

William E. Ritter, professor of zoology at the University of California, has just returned from a voyage on the steamer Albatross, having been engaged for the last month in collecting specimens of sea life for scientific research. The entire month was spent in sounding and dredging the ocean off San Diego, although most of the work was carried on about Point Loma, La Jolla, and Catalina islands. Some dredging was done about 20 miles off Point Conception, this being the farthest the steamer sailed from land. Here the abyssal depths begin, the soundings ranging anywhere from 10,000 to 14,000 feet. It was in the great depths that we found the most interesting specimens of sea life," said Prof. Ritter. "There is an abundance of life there, and it is surprising the gorgeous colors the inhabitants wear. The predominant life at the great depths is the star fish and the sea urchin. The sea urchin is most abundant in individuals and kinds."

Samples of the bottom were taken by the expedition at all places, and evidence will be presented to show that bottom was found in large quantities at the great depths.

That a vast Antarctic continent exists, perhaps twice as large as that of Europe, would seem to be proved by the reports now appearing of the recent explorations in that region, declares the National Geographic Magazine. The American commander Wilkes, returning from

the far south in 1841, asserted the existence of a vast South Polar continent, and described his voyage of 1,500 miles in sight of the coast. Ross, however, returning soon after, discredited Wilkes' conclusions, saying that the land seen by Wilkes was merely a great wall of ice. The world has been in doubt which to believe.

That Ross is wrong and Wilkes right, is very evident from the report of Capt. Scott of the British Antarctic expedition of 1901-04. Capt. Scott shows that the mass of ice seen by Ross is in reality an extensive glacier resting on land and covering the land like the ice cap of Greenland. The glacier is about 70 miles wide, and reaches the sea through a plain lying between Victoria Land and Edward VII. Land. The German expedition under Von Drygalski, working eighty degrees of longitude farther west, also found a somewhat similar expanse of ice-capped land, whose limits they were unable to trace, but which is apparently a part of the same Antarctic continent.

Sir John Primrose, at a recent banquet at Glasgow, made reference to a new process for obtaining a complete combustion of coal. He has experimented in his factories with many previous inventions of this kind in order to abate the smoke nuisance. Recently he tried a new furnace, which seems not only to prevent smoke, but permits a much greater efficiency of the coal used. The speaker said of the invention that the burning of the coal takes place in a chamber surrounded by a water jacket, separated from the boiler, and that only the gaseous products of combustion are used for heating the boiler. According to this new process a steamer would require less than one-half of the room now used for the boilers in order to generate the same amount of power, and the weight of the heating apparatus would also be diminished more than one-half. Air and fuel gas are conducted simultaneously to the boiler, and no unburned gases can escape into the air, so that no smoke and no carbonic acid escapes through the smokestacks. For steam purposes it would also be of importance, as it is said that the process permits of the use of inferior fuel.

COMBUSTION OF COAL.

The Forum

Opinions of the Readers of the Eagle on Current Topics.

HIGH STRIKE NEAR MORRISON, O. T.

In a section of the country, three miles south of Morrison, Noble county, O. T., a large dike some two miles long rears itself above the surrounding country. This dike is in a succession of smaller ridges forming at this point the divide, or watershed, between the Arkansas and Cimarron rivers, as the water on each side empty into these rivers.

What formed this upheaval seems to be wrapped in mystery, as history and the oldest settlers do not seem to know.

The formation indicates at one time a low lying lake region, the highest altitude at the present time is only about 1,000 feet.

At the western end of this dike near the county line between Payne and Noble counties, is found a large quantity of copper ore, carrying from thirty-five to forty percent to the ton. Through the courtesy of Mr. G. W. Crawford, the lessee, we were shown over this property also the assays, several in number, giving the amount of mineral per ton. Two assays from Denver, Colo., gave respectively 37 per cent and 49 per cent copper, and a fraction of over 15 of silver to the ton. An assay made at the United States mint at Denver, gave 49 per cent copper. One from Morency, Arizona, gave 49 per cent, while another at the Agricultural college at Stillwater, O. T., gave 59 per cent.

An average of these assays would approximate to nearly 55 copper. The silver added to this at the market value of the two metals would bring the value up to \$186.00 a ton.

Mr. Crawford has lately signed a contract with New York and Joplin parties for the working of this property. As they are practical business men and own and operate large mines in Joplin, Mo., and New Mexico, it goes without saying that things will get a bump on themselves, as soon as they get their outfit on the ground, which will be in a very few days.

This section, like Cripple Creek, a few years ago, was a famous cattle range, and the sportive cowboy as he galloped over these ridges after the festive longhorn and his broncho's hoofs spurned the green and blue rocks, little dreamed he was riding over a fortune that would be opened up some day after the long-horn and his owner had passed on to other fields.

And the little Pawnee papoose, as he played among the rifts on the hillside with his same float, little thought that the white man would come to this ridge with the big chug-chug-chug (steam drill) and open up the hillside in his efforts to obtain the painted stones which perhaps later his Uncle Sam at Washington would make into the red and the white Pawnee-ches (money).

We visited the farm of Mr. R. Buchanan, three miles northeast of Stillwater, the county seat of Payne county. Near the south side of this farm a stone quarry is opened up. Mr. Buchanan has furnished from his quarry the principal part of the curb-stones for the business streets of Stillwater. The rock from this quarry is a dark gray and very heavy. On examination it was found to contain both silver and copper, and if run through a concentrator and properly handled, would give a value from ten to fifteen dollars per ton.

Everybody seems to be talking oil in this country, and well they may, as the indications at this point that way, and are very good. Oil is found here on the springs in places, also in some of the wells, and the Creeks have that peculiar seamy surface which is seen in any oil region. Several oil companies are organized in this vicinity, prominent among them is the Pioneer Co., of Morrison. This company is made up principally of rich farmers in the valleys, some twenty in number, and we are told they have money enough raised among themselves to buy all necessary machinery. The officers of this company are all old settlers and are men of sterling integrity.

Capt. Ed. E. Symthe of Sterling, Kan., is here prospecting for copper one-half mile west of Morrison. He is working in the interest of Joplin parties, and expects to hit the copper bearing rock at ninety feet.

MORRISON, O. T.

Robert Malmain, Justice of the peace and saloonkeeper at Good Thunder, Minn., was recently arrested for selling adulterated brandy. He was tried before himself, found guilty, and sentenced to pay a fine of \$25. The fine was paid and justice satisfied.

Our Superb Cravenettes

Cool mornings and evenings, with considerable wet weather at hand, are reasons enough that you should own a garment answering a double purpose. Our Cravenettes are right and proper as a tony spring overcoat, also a protection against April showers; latest materials, handsome styles; \$7.50 to \$25.00



LATEST HATS

Everything in the very latest shades and shapes. If you haven't bought your New Spring Hat come for it tomorrow. You'll find what you wish here.

New Spring Derbies in newest blocks, and Stetson Hats and Stetson shapes in the cheaper grades of fur; all strictly pure fur felt, with silk trimmings and best of leather sweats—guaranteed to give satisfactory service or a new hat, at—

\$1.00 to \$6.00



Florsheim and Walk-Over Shoes

The first requisite in a man's foot wear is comfort; second, durability; third, style. In the enormous stock we carry may be seen the ideals of design and workmanship, the swiftest lasts and a variety of leathers unmatched except here; comfortable glove-fitting Shoes to suit every taste. See them before you buy.

In the Selection of Your ...New Suit...

You should not lose sight of the fact that this store affords better opportunities for satisfactory buying than any other store in Wichita. Those who come to us in search of the things that are new and "bear the stamp of fashion's approval" will certainly not be disappointed.

Smart Styles for Men and Young Men

Be guided by the great majority and insist on having nothing but the highest standard of excellence in the clothes you buy—then and only then will you appreciate the beauty and true style of the

"Famous Hart Schaffner & Marx, and Brokaw Bros."

Suits and Top Coats. These two great lines are centered at The Fulton and are as lowly priced as any good clothing in America.

At \$10.00 and \$12.50 we are showing Spring Suits that are thoroughly reliable in every way and which appeal to frugal buyers.

At \$15.00 to \$25.00 we are displaying apparel that is not only stylish, but style-producing. Suits for everybody—and Suits that are unmatched for their intrinsic value.

\$7.50 to \$25.00

New Togs for Little Men

Mothers who come here tomorrow for the little fellow's apparel will have every assurance of satisfaction. No Boys' Department in Wichita equals ours. You'll say so when you come. Our splendid showing includes Buster Browns, ages 3 to 8; Norfoks, ages 5 to 12, and those swell Two-Piece Suits in single or double-breasted styles, ages 8 to 16; in Scotch mixtures, serges, worsteds and handsome grays; long roll collars and hand-padded shoulders; perfectly tailored garments in every way, and far greater values than are offered you in other stores at the prices—

\$1.25 to \$8.00

Notice to Boys

Come and get the new catalog of new books. Excellent reading, just received Saturday.

SPRING SHIRTS

Our Shirt customers find little difficulty in getting here the things that strike their fancy.

New 1904 patterns in Madras, Chambray, Chevots and Percade Shirts, with cuffs attached or detached, plain or plaited bosoms, in shades of gray, tan, blue and white grounds, and sizes to fit any shape man; more styles and better values than can be seen anywhere else, at—

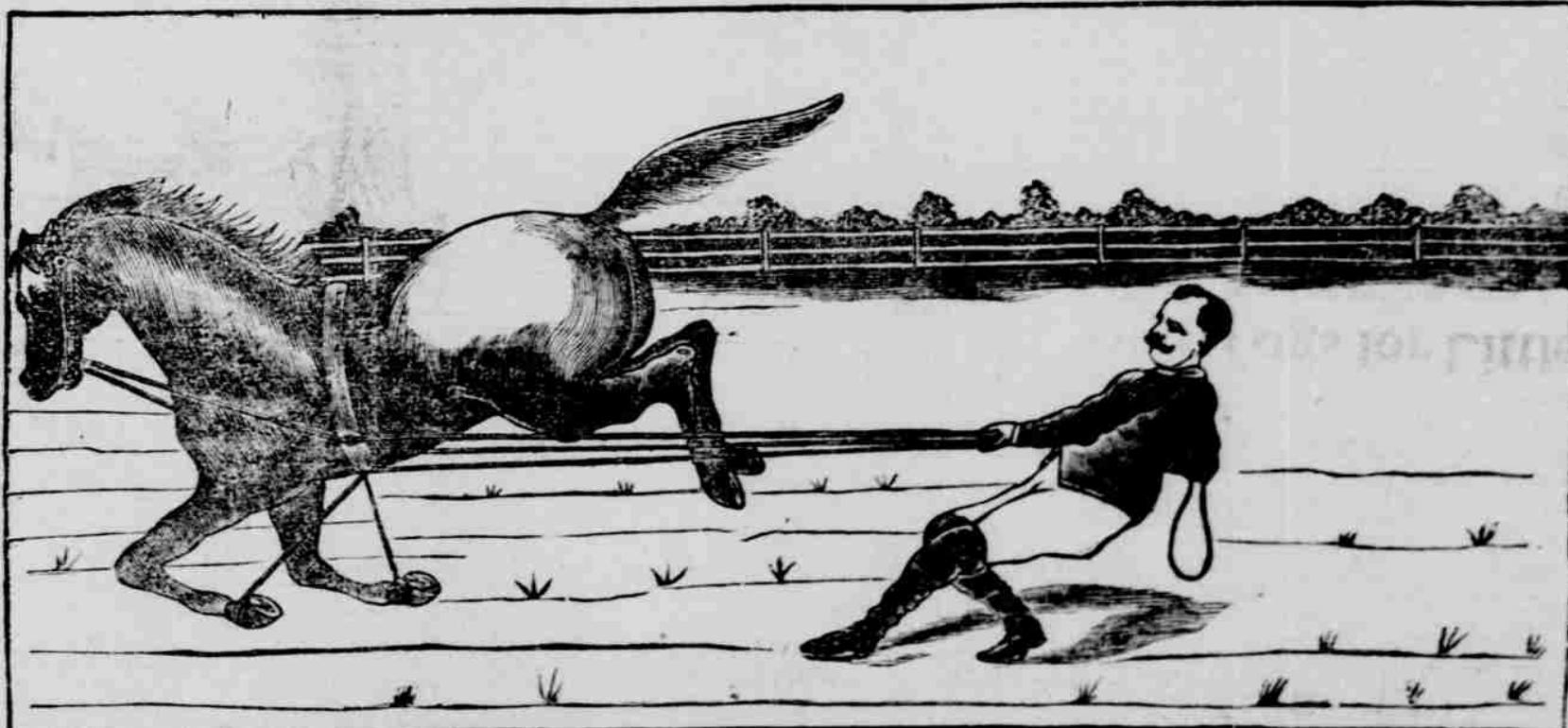
45c, 95c, \$1.50 and up to \$3.00

LAST 4 GREAT EXHIBITIONS AT WICHITA CORNER MAIN STREET AND CENTRAL AVENUE

TUESDAY, WEDNESDAY THURSDAY, FRIDAY

NIGHTS, April 26, 27, 28, 29

The Great Gleason



Greatest Horse Taming Exhibition on Earth

Entire Change of Program Nightly

In order that every man, woman and child in Wichita can afford to see this Wonderful Exhibition, the Better Than Any Circus

Admission Will Only Be 10 Cents

Extra Seats are now being built so 5,000 people can witness the Great Exhibition at the above price